PROJECT DESCRIPTION
GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC SIGNAL AT THE INTERSECTION OF MD 12 (SNOW HILL ROAD) AT RELOCATED JOHNSON ROAD / ROBINS AVENUE IN WICOMICO COUNTY.

INTERSECTION OPERATION

TRAFFIC SIGNAL CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL BE INSTALLED AT THIS LOCATION THE INTERSECTION WILL OPERATE IN A FULLY ACTUATED MODE USING 6 NEMA PHASES. THERE WILL BE AN EXCLUSIVE/PERMISSIVE LEFT TURN PHASE FOR BOTH THE NORTH AND SOUTHBOUND MOVEMENTS OF MD 12. THE MD 12 THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY WITH A CONCURRENT PEDESTRIAN MOVEMENT ACROSS THE EAST LEG. THE RELOCATED JOHNSON ROAD AND ROBINS AVE MOVEMENT WILL OPERATE CONCURRENTLY WITH AN ACTUATED PEDESTRIAN MOVEMENT ACROSS THE SOUTH LEG OF THE INTERSECTION.

SPECIAL NOTES

1. THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

PROJECT CONTACTS:

MR. GENE COFIELL, ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 677-4040
MR. JAMES R. WRIGHT, ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 677-4010
MR. BRUCE W. POOLE, UTILITY ENGINEER
PHONE: (410) 677-4082
MR. RICHARD L. DAFF, SR. CHIEF TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630
MR. EDWARD RODENHIZER, SUPERVISOR, SIGNAL OPERATIONS
PHONE: (410) 787-7652

2. APS WILL FUNCTION AS FOLLOWS:
   FOR SOUTH LEG MD 12 (SNOW HILL ROAD)
   A1. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS SNOW HILL AT JOHNSON - CROSSWALK ANGLES RIGHT".
   A2. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS SNOW HILL AT ROBINS - CROSSWALK ANGLES LEFT".
   B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

   FOR EAST LEG (JOHNSON ROAD)
   A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS JOHNSON AT SNOW HILL".
   B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

3. THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7635 TO ARRANGE FOR THE PHONE DROP INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET NUMBER, ZIP CODE, AND TELEPHONE NUMBER.

EQUIPMENT LIST

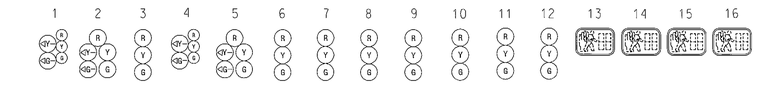
A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

NONE.

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

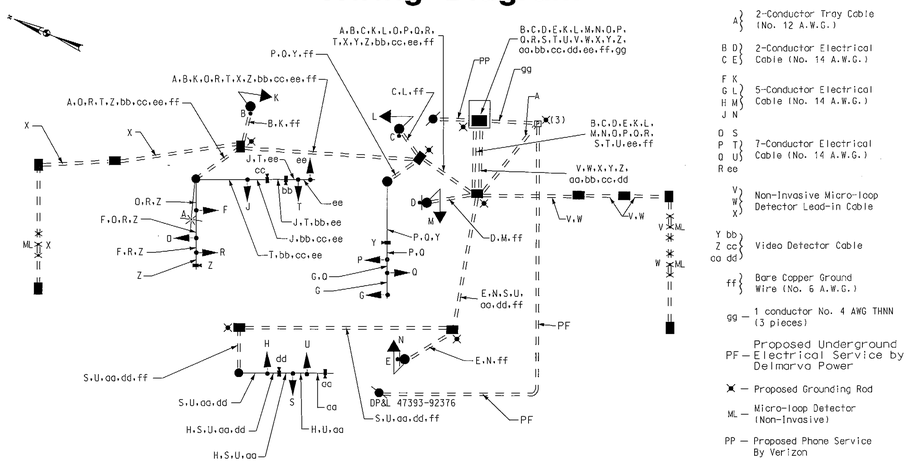
QUANTITY	UNITS	DESCRIPTION
LUMP SUM	LS	MOBILIZATION.
LUMP SUM	LS	MAINTENANCE OF TRAFFIC.
1	EA	27 FT. STEEL MAST ARM POLE WITH A 38 FT. MAST ARM.
1	EA	27 FT. STEEL MAST ARM POLE WITH A 70 FT. MAST ARM.
1	EA	27 FT. STEEL TWIN MAST ARM POLE WITH 50 FT. AND 70 FT. MAST ARMS.
4	EA	10 FT. STEEL PEDESTAL POLE WITH BREAK AWAY TRANSFORMER BASE.
1	EA	STANDARD S.H.A. TRAFFIC SIGNAL CONTROLLER, NEMA SIX BASE MOUNTED CABINET, VIDEO DETECTION INTERFACE, ONE (1) 4-CHANNEL DETECTOR AMPLIFIER, APS 2-WIRE CENTRAL CONTROL UNIT [Note: CONTROLLER AND CABINET SHALL BE PURCHASED FROM ECONOLITE AND DELIVERED TO THE S.H.A. SIGNAL SHOP FOR WIRING AND TESTING.CONTACT MR. ED RODENHIZER (410) 787-7650].
8	EA	12 IN.. ONE-WAY, THREE SECTION L.E.D. (R,Y,G) ADJUSTABLE BLACK FACED TRAFFIC SIGNAL HEAD WITH MAST ARM MOUNTING HARDWARE AND TUNNEL VISORS.
2	EA	12 IN.. ONE-WAY, FIVE SECTION L.E.D. (R,Y,YA,G,GA) ADJUSTABLE BLACK FACED TRAFFIC SIGNAL HEAD WITH MAST ARM MOUNTING HARDWARE AND TUNNEL VISORS.
2	EA	8/12 IN.. ONE-WAY, FIVE SECTION L.E.D. (8 IN. R,Y,G, 12 IN. YA,GA) ADJUSTABLE BLACK FACED TRAFFIC SIGNAL HEAD WITH MAST ARM MOUNTING HARDWARE AND TUNNEL VISORS.
4	EA	16 IN.. ONE-WAY, ONE SECTION L.E.D. (COUNTDOWN INDICATIONS) ADJUSTABLE PEDESTRIAN SIGNAL HEAD WITH POST TOP MOUNTING HARDWARE AND CUT-AWAY VISORS.
6	EA	VIDEO DETECTION CAMERA AND CABLE. (1- 200 LF. 5 - 300 LF.)
2	EA	16 IN. X VAR. D-3(1) SIGN (DUAL FACED) WITH MAST ARM MOUNTING HARDWARE.
1	EA	30 IN. X 36 IN. R 3-5(R) SIGN WITH MAST ARM MOUNTING HARDWARE.
2	EA	30 IN. X 36 IN. R 3-5(L) SIGN WITH MAST ARM MOUNTING HARDWARE.
4	EA	9 IN. X 15 IN. R10-3(1) SIGN FOR POLE/PEDESTAL MOUNTING.
2	EA	48 IN. X 48 IN. W 3-3 SIGN FOR GROUND MOUNTING.
2	EA	30 IN. X 51 IN. SHIELD ASSEMBLY SIGN WITH GROUND MOUNTING.
2	EA	48 IN. X 75 IN. SHIELD ASSEMBLY SIGN WITH GROUND MOUNTING.
4	EA	AUDIBLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH PUSHBUTTON SIGN.
3	EA	NON-INVASIVE PROBE (SET OF 3) WITH [2-500 FT, 1-1000 FT.] LEAD-IN CABLE.
1	EA	15 FT. LUMINAIRE ARM.
1	EA	250 W H.P.S. lamp and luminaire.
4	CY	TEST PIT EXCAVATION.
12	EA	HANDHOLE.
60	LF	1-CONDUCTOR ELECTRICAL CABLE (No. 4 A.W.G.) THNN.
230	LF	2-CONDUCTOR ELECTRICAL TRAY CABLE (No. 12 A.W.G.).
400	LF	2-CONDUCTOR ELECTRICAL CABLE (No. 14 A.W.G.).
530	LF	5-CONDUCTOR ELECTRICAL CABLE (No. 14 A.W.G.).
1900	LF	7-CONDUCTOR ELECTRICAL CABLE (No. 14 A.W.G.).
450	LF	BARE COPPER STRANDED GROUND WIRE (No. 6 A.W.G.).
50	LF	2 IN. POLYVINYL CHLORIDE [SCHEDULE 80] ELECTRICAL CONDUIT - TRENCHED.
580	LF	3 IN. POLYVINYL CHLORIDE [SCHEDULE 80] ELECTRICAL CONDUIT - TRENCHED.
290	LF	3 IN. POLYVINYL CHLORIDE [SCHEDULE 80] ELECTRICAL CONDUIT - BORED.
50	LF	4 IN. POLYVINYL CHLORIDE [SCHEDULE 80] ELECTRICAL CONDUIT - TRENCHED.
400	LF	4 IN. POLYVINYL CHLORIDE [SCHEDULE 80] ELECTRICAL CONDUIT - BORED.
14.8	CY	CONCRETE FOUNDATION FOR TRAFFIC SIGNAL EQUIPMENT.
9	EA	GROUND ROD - ¾ IN. DIAMETER x 10 FT. LENGTH.
1	EA	ELECTRICAL UTILITY SERVICE EQUIPMENT (120/240 V. ONE PHASE, THREE WIRE SYSTEM) FOR AN UNDERGROUND ELECTRICAL POWER SERVICE AS PER MD-SHA TYPICAL NO. 807.05-01 (200 AMP. ELECTRICAL PEDESTAL).
245	LF	12 IN. WIDE HAPPTPM - WHITE FOR CROSSWALK.
150	LF	24 IN. WIDE HAPPTPM - WHITE FOR STOP LINE.
150	LF	4 IN. x 6 IN. WOOD SIGN SUPPORT.
1	EA	CUT, CLEAN, GALVANIZED AND CAP MAST ARM POLE.

Phase Chart



PHASE 1 & 5	R G	R G	R	R G	R G	R	R	R	R	R	R	R	DW	DW	DW	DW	
1 & 5 CHANGE TO PHASE 1 & 6 OR PHASE 2 & 5 OR PHASE 2 & 6																	
PHASE 1 & 6	R	R	R	G G	G G	G	R	R	R	R	R	R	DW	DW	DW	DW	
1 CHANGE	R	R	R	G Y	G Y	G	R	R	R	R	R	R	DW	DW	DW	DW	
PHASE 2 & 5	G G	G G	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	
5 CHANGE	G Y	G Y	G	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	DW	DW	
PED CLEARANCE	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	DW	DW	
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	
PHASE 4 AND 8 ALT	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	WK	WK	
PED CLEARANCE	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	FL/DW	FL/DW	
4 AND 8 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	

Wiring Diagram



A } 2-Conductor Tray Cable (No. 12 A.W.G.)

B D } 2-Conductor Electrical
C E } Cable (No. 14 A.W.G.)

F K
G L } 5-Conductor Electrical
H M } Cable (No. 14 A.W.G.)
J N

O S
P T } 7-Conductor Electrical
Q U } Cable (No. 14 A.W.G.)
R ee

V } Non-Invasive Micro-loop
W } Detector Lead-in Cable
X

Y bb
Z cc } Video Detector Cable
aa dd

ff } Bare Copper Ground Wire (No. 6 A.W.G.)

gg — 1 conductor No. 4 AWG THNN (3 pieces)

PF — Proposed Underground Electrical Service by Delmarva Power

✱ — Proposed Grounding Rod

ML — Micro-loop Detector (Non-Invasive)

PP — Proposed Phone Service By Verizon

GENERAL NOTES

1. VIDEO CAMERA LOCATION/ALIGNING SHALL BE COORDINATED WITH THE SHA ENGINEER.
2. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE AND CABINET LOCATIONS PRIOR TO INSTALLATION.
3. PAVEMENT MARKINGS DETAILED ARE PROPOSED AND ARE TO BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH MD-SHA STANDARDS. ALL OTHER PAVEMENT MARKINGS ARE TO BE CONSIDERED AS EXISTING.
4. GEOMETRICS SHALL BE CONFIRMED PRIOR TO THE INSTALLATION OF SIGNAL EQUIPMENT. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS. HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS. TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
5. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.
6. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18 IN. FROM A 60 IN. x 60 IN. LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
7. THE 10 FT. SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
8. PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
9. THE LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 & FIG 4E-2 AND THE NCHRP PUBLICATION. "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE". IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
10. THE SIGNAL CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERING APS EQUIPMENT FOR PROGRAMING TO MD-SHA SIGNAL SHOP.
11. WHEN INSTALLING NON-INVASIVE MICRO-LOOP PROBES IN CONDUIT, THE HANDHOLE SHALL BE INSTALLED PERPENDICULAR TO THE ROADWAY.
12. THE ROADWAY CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALL ALL ADA SIDEWALK RAMPS (STD. 655.13) AND ADA DETECTABLE WARNING SURFACES (STD. 655.40).
13. ALL UNUSED CABLE SHALL BE REMOVED.

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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

SUMMERSGATE RETIREMENT COMMUNITY

MD 12 (SNOW HILL RD.) AT RELOCATED JOHNSON RD./ROBINS AVE

GENERAL INFORMATION PLAN

SCALE N/A DATE FEB. 24, 2009 CONTRACT NO. BW996M82

DESIGNED BY B. KILIAN
DRAWN BY B. KILIAN
CHECKED BY
F.A.P. NO. N/A

COUNTY WICOMICO
LOGMILE 22001205.59
TIMS NO. 1178
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TS NO. 4660-GI | DRAWING - OF | SHEET NO. 2 OF 2

PLOTTED: Monday, March 23, 2009 AT 09:49 AM
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